



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,091	12/05/2003	Suddeep Gupta	139170	8830
24587 7590 04/24/2007 ALCATEL USA INTELLECTUAL PROPERTY DEPARTMENT 3400 W. PLANO PARKWAY, MS LEGL2 PLANO, TX 75075			EXAMINER HOANG, DANIEL L	
			ART UNIT	PAPER NUMBER
			2136	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/729,091	Applicant(s) GUPTA ET AL.	
	Examiner Daniel L. Hoang	Art Unit 2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

CLAIMS PRESENTED

Claims 1-20 are presented.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim cites "said encryption selector accesses the index maintained at said encryption selection database." Support for said accessing is not described in applicant's disclosure. Appropriate correction is required.
2. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim cites "indicia associated with the originating node indexed together with values." Applicant does not disclose said indexing and further it is unclear to examiner which values are being indexed with said indicia. Appropriate correction is required.
3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim cites "indicia associated with the identifier indexed together

Art Unit: 2136

with values." Applicant does not disclose said indexing and further it is unclear to examiner which values are being indexed with said indicia. Appropriate correction is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim cites the limitations "MTP3" and "AP". It is unclear to examiner what these acronyms refer to. Appropriate correction is required.

2. Claim 10 recites the limitation "the second selected switch node" in claim 9. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, examiner interprets the limitation to say "the second selected signal point." Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-7, 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent No. 5,974,052), in view of Blanchard (US Patent No. 6,081,600), and further in view of Kollmyer (US Patent No. 7,165,175).

As per claim 1, 16:

In a signaling network in which signaling messages are communicated between signaling points of the signaling network, an improvement of apparatus for selectably encoding at least portions of a signaling

Art Unit: 2136

message communicated by way of a first selected signal point to at least a second selected signal point, said apparatus comprising:

an encryption selector operable responsive to delivery of the signaling message at the first selected signal point, said encryption selector for selecting which, if any, portion of the signaling message to encrypt; and

an encryptor adapted to receive indications of the signaling message and to receive indications of selection made by said encryption selector, said encryptor selectably for encrypting the portion of the signaling message selected by said encryption selector to be encrypted, the signaling message thereafter to be forwarded on to the second selected signaling point.

Johnson teaches:

A signaling network in which signaling messages are communicated between signaling points of the signaling network (see fig. 1). Johnson's invention does not explicitly teach that the signaling messages can be separated into portions. Johnson also does not teach explicitly teach how the portions may be encrypted.

Blanchard teaches:

The communication of messages in which he explains are carried in fundamental data packets.

Blanchard further teaches that said data packets contain a message payload portion. The payload contains message content which further comprises signaling data and traffic data (see col. 1, paragraph 3). It would have been obvious at the time of the invention to one of ordinary skill in the art to which the subject matter pertains to combine the teachings of the Johnson reference and the teachings of the Blanchard reference in order to separate signaling data so that only essential signaling units from a signaling data stream need to be transporting across the network as taught by Johnson. Although both the Johnson and the Blanchard invention both cite encryption/decryption capabilities, they do not explicitly teach encryption selectors or encryptors adapted to receive indications of signaling messages and selectably encrypting portions of the signaling message.

Kollmyer teaches:

Art Unit: 2136

A system that is operable to parse and selectively encrypt and decrypt encrypted data (see col. 5, paragraph 2). It would have been obvious at the time of the invention to one of ordinary skill in the art to which the subject matter pertains to combine the teachings taught above by Johnson and Blanchard with the teachings taught by Kollmyer in order to discriminately encrypt data so that any data that does not need to be encrypted isn't which leads to less computational load on the system as a whole.

As per claim 2, 17:

The apparatus of claim 1 wherein the signaling network comprises an SS7 signaling network, wherein the first selected signal point comprises a first signaling transfer point and wherein said encryption selector and said encryptor are embodied at the first signaling transfer point.

[see Johnson, fig. 1]

As per claim 3:

The apparatus of claim 1 further comprising an encryption selection database accessible by said encryption selector, said encryption selection database maintaining an index of which portion, if any, of the signaling message is to be encrypted, and wherein said encryption selector accesses the index maintained at said encryption selection database pursuant to the selection of which, if any, portion of the signaling message to encrypt.

Kollmyer teaches data traffic traversing the network may or may not be encrypted depending on the destination of the traffic and whether or not it is in a safe zone by virtue of not being exposed to the outside network. Therefore data traveling to certain destination addresses that reside outside of the internal network may need to be encrypted in order to be made secure (see col. 6, paragraph 2). It would be obvious to keep track of internal and external destinations so that the system can be aware of when encryption may be necessary. It would be obvious to one of ordinary skill in the art to which the subject matter pertains at the time of the invention to keep track of such information in a database.

As per claim 6:

Art Unit: 2136

The apparatus of claim 1 wherein the signaling message comprises a header part and a payload part and wherein the portion, if any, of the signaling message selected by said encryption selector to be encrypted comprises a selected portion of the payload part.

[see Kollmyer, col. 6, paragraph 5]

As per claim 7:

The apparatus of claim 6 wherein the signaling network comprises an SS7 signaling network, wherein the signaling message comprises a message signaling unit, and the payload part of the signaling message comprises a portion of the message signaling unit.

[see Johnson, col. 6, paragraph 3]

As per claim 9, 20:

The apparatus of claim 1 wherein said encryptor encrypts the portion of the signaling message pursuant to a public-key encryption scheme.

As per applicant's discloser, existing schemes and encryption techniques are generally well known. It would have been obvious to one of ordinary skill in the art to which the subject matter pertains to encrypt using a public-key encryption scheme.

As per claim 10:

The apparatus of claim 9 wherein the second selected switch node to which the signaling message is to be forwarded is identified by an identifier and wherein the public-key encryption scheme used by said encryptor encrypts the portion, if any, of the signaling message using a public encryption key associated with the identifier that identifies the second selected signal point.

[see rejection of claim 3 wherein the identifier would be the destination address]

As per claim 11:

Art Unit: 2136

The apparatus of claim 10 wherein said apparatus further comprises an encryption key database accessible by said encryptor, said encryption key database maintaining an index that indexes together the public encryption key and the identifier associated therewith.

[see Kollmyer, col. 7, paragraph 7]

As per claim 12:

The apparatus of claim 11 wherein said encryptor accesses said encryption key database pursuant to encryption of the portion of the signaling message selected by said encryption selector to access the encryption key associated with the second selected signal point.

[see Kollmyer, col. 7, paragraph 7]

As per claim 13, 18:

In the signaling network of claim 1 further including apparatus for selectably decoding the signaling message, said apparatus comprising:

a detector adapted to receive indications of the signaling message, said detector for detecting which, if any, part of the signaling message is encrypted; and a de-encryptor adapted to receive indications of detections made by said detector and to receive indications of the signaling message sent to the second selected signal point, said de-encryptor selectably for de-encrypting the encrypted portion, if any, of the signaling message.

[see Blanchard, fig. 4]

As per claim 14, 19:

The apparatus of claim 13 wherein the signaling message is delivered to said detector and to said de-encryptor by way of an untrusted communication path.

It is clear that if the message is encrypted, then the communication path is insecure or untrusted.

As per claim 15:

Art Unit: 2136

The apparatus of claim 13 wherein de-encryption performed by said de-encryptor utilizes an encryption key to de-encrypt the encrypted portion, if any, of the signaling message.

[see Blanchard, fig. 4]

Allowable Subject Matter

1. Claims 4, 5, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

CONCLUSION

The art made of record and not relied upon is considered pertinent to applicant's disclosure.

POINTS OF CONTACT

- * Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulaney Street
Alexandria, VA 22314

- * Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel L. Hoang whose telephone number is 571-270-1019. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

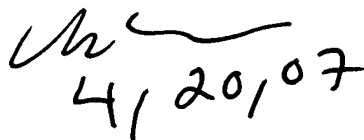
Art Unit: 2136

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel L. Hoang
4/17/07

NASSER MOAZZAMI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



4, 20, 07